IN THE CLAIMS

1. (currently amended) A magnetic resonance imaging apparatus comprising:

an acquiring device for exciting spins within a subject to acquire an imaging echo generated by the excited spins along with a navigator echo, with a reduced field-of-view via a plurality of receiver systems;

~~the~~ a first correcting device for conducting phase correction on said imaging echo based on said navigator echo;

~~the~~ a first image producing device for producing an intermediate image based on said phase-corrected imaging echo from each of said plurality of receiver systems;

a generating device for generating a sensitivity matrix for said plurality of receiver systems;

~~the~~ a second correcting device for phase-correcting matrix data in said sensitivity matrix; and

~~the~~ a second image producing device for producing an image with a full field-of-view based on said intermediate image and said phase-corrected sensitivity matrix.

2. (original) The magnetic resonance imaging apparatus of claim 1, wherein the reduction factor for said reduced field-of-view satisfies the following requirement:

$n \geq R > 1$,

where

R: the reduction factor, and

n: the number of receiver systems.

3. (original) The magnetic resonance imaging apparatus of claim 1, wherein said acquiring device implements said reduced field-of-view by enlargement of sampling intervals for a k-space.

4. (original) The magnetic resonance imaging apparatus of claim 3, wherein said acquiring device implements said enlargement of the sampling intervals by enlargement of a step difference of phase encoding.

5. (original) The magnetic resonance imaging apparatus of claim 1, wherein said plurality of receiver systems have respective receiving coils.

6. (original) The magnetic resonance imaging apparatus of claim 5, wherein said receiving coils are surface coils.

7. (original) The magnetic resonance imaging apparatus of claim 1, wherein said acquiring device employs an MS-DW-EPI technique in acquiring said imaging echo.

8. (original) The magnetic resonance imaging apparatus of claim 1, wherein said acquiring device employs a technique other than the MS-DW-EPI technique in acquiring said imaging echo.

9. (original) The magnetic resonance imaging apparatus of claim 1, wherein said generating device generates said sensitivity matrix based on a spatial distribution of reception sensitivity of said plurality of receiver systems with respect to the full field-of-view.

10. (original) The magnetic resonance imaging apparatus of claim 9, wherein said generating device generates said sensitivity matrix after fitting the spatial distribution of the magnitude of the reception sensitivity of each of said plurality of receiver systems to a two-dimensional polynomial.

11. (original) The magnetic resonance imaging apparatus of claim 10, wherein said generating device conducts said fitting by a method of least squares weighted depending upon the magnitude of the reception sensitivity.

12. (original) The magnetic resonance imaging apparatus of claim 11, wherein a weight for said weighting is the square of the magnitude of the reception sensitivity.

13. (original) The magnetic resonance imaging apparatus of claim 10, wherein said two-dimensional polynomial is a quadratic.

14. (original) The magnetic resonance imaging apparatus of claim 1, wherein said second correcting device homogenizes said phase.

15. (original) The magnetic resonance imaging apparatus of claim 1, wherein said second correcting device sets said phase to zero.

16. (original) The magnetic resonance imaging apparatus of claim 1, wherein said second correcting device sets said phase to a constant value other than zero.

17. (original) The magnetic resonance imaging apparatus of claim 1, wherein said second image producing device employs the following equation in producing said image:

$$V=(S^* S)^{-1} S^* A,$$

where

V: pixel values of the image with the full FOV,

S: a sensitivity matrix,

S*: an adjoint matrix of S, and

A: pixel values of the intermediate image.